CLAIMS

1. Detergent particles having an average particle size of from 150 to 500 μm and a bulk density of 500 g/liter or more, wherein the detergent particles comprise a detergent particle being capable of releasing a bubble from an inner portion of the detergent particle in a process of dissolving the detergent particle in water, the bubble having a size of one-tenth or more of a particle size of the detergent particle, and wherein the detergent particles have a dissolution rate of 90% or more, under conditions where the detergent particles are supplied in water at 5°C; stirred for 60 seconds under the stirring conditions that 1 g of the detergent particles is supplied to a one-liter beaker having an inner diameter of 105 mm which is charged with one-liter of hard water having 71.2 mg $CaCO_3$/liter, wherein a molar ratio of Ca/Mg is 7/3, and stirred with a stirring bar of 35 mm in length and 8 mm in diameter at a rotational speed of 800 rpm; and filtered with a standard sieve having a sieve-opening of 74 μm as defined by JIS Z 8801, wherein the dissolution rate of the detergent particles is calculated by Equation (1):

$$\text{Dissolution Rate (\%)} = [1 - (T/S)] \times 100 \quad (1)$$

wherein S is a weight (g) of the detergent particles

supplied; and

T is a dry weight (g) of remaining insolubles of the detergent particles remaining on the sieve when a liquid prepared under the above stirring conditions is filtered with the sieve, wherein drying conditions for the remaining insolubles are keeping at a temperature of 105°C for 1 hour, and then in a desiccator with a silica gel at 25°C for 30 minutes.

2. Detergent particles having an average particle size of from 150 to 500 μm and a bulk density of 500 g/liter or more, wherein the detergent particles comprise a detergent particle being capable of releasing a bubble from an inner portion of the detergent particle in a process of dissolving the detergent particle in water, the bubble having a size of one-tenth or more of a particle size of the detergent particle, and wherein the detergent particles have a dissolution rate of 82% or more, under conditions where the detergent particles are supplied in water at 5°C; stirred for 30 seconds under the stirring conditions that 1 g of the detergent particles is supplied to a one-liter beaker having an inner diameter of 105 mm which is charged with one-liter of hard water having 71.2 mg $CaCO_3$/liter, wherein a molar ratio of Ca/Mg is 7/3, and stirred with a stirring bar of 35 mm in length

and 8 mm in diameter at a rotational speed of 800 rpm; and filtered with a standard sieve having a sieve-opening of 74 μm as defined by JIS Z 8801, wherein the dissolution rate of the detergent particles is calculated by Equation (1):

$$\text{Dissolution Rate (\%)} = [1 - (T/S)] \times 100 \quad (1)$$

wherein S is a weight (g) of the detergent particles supplied; and

T is a dry weight (g) of remaining insolubles of the detergent particles remaining on the sieve when a liquid prepared under the above stirring conditions is filtered with the sieve, wherein drying conditions for the remaining insolubles are keeping at a temperature of 105°C for 1 hour, and then in a desiccator with a silica gel at 25°C for 30 minutes.

3. The detergent particles according to claim 1 or 2, wherein the detergent particles are a collective of a detergent particle comprising a base particle comprising a water-insoluble inorganic compound, a water-soluble polymer and a water-soluble salt, and a surfactant supported by the base particle, wherein the base particle has a localized structure in which larger portions of the water-soluble polymer and the water-soluble salt are present near the surface of the base particle rather than

in the inner portion thereof.

4. Detergent particles having an average particle size of from 150 to 500 μm and a bulk density of 500 g/liter or more, wherein the detergent particles are a collective of a detergent particle comprising a base particle comprising a water-insoluble inorganic compound, a water-soluble polymer and a water-soluble salt, and a surfactant supported by the base particle, wherein the base particle has a localized structure in which larger portions of the water-soluble polymer and the water-soluble salt are present near the surface of the base particle rather than in the inner portion thereof, and wherein the detergent particles have a dissolution rate of 90% or more, under conditions where the detergent particles are supplied in water at 5°C; stirred for 60 seconds under the stirring conditions that 1 g of the detergent particles is supplied to a one-liter beaker having an inner diameter of 105 mm which is charged with one-liter of hard water having 71.2 mg $CaCO_3$/liter, wherein a molar ratio of Ca/Mg is 7/3, and stirred with a stirring bar of 35 mm in length and 8 mm in diameter at a rotational speed of 800 rpm; and filtered with a standard sieve having a sieve-opening of 74 μm as defined by JIS Z 8801, wherein the dissolution rate of the detergent

particles is calculated by Equation (1):

$$\text{Dissolution Rate (\%)} = [1 - (T/S)] \times 100 \quad (1)$$

wherein S is a weight (g) of the detergent particles supplied; and

T is a dry weight (g) of remaining insolubles of the detergent particles remaining on the sieve when a liquid prepared under the above stirring conditions is filtered with the sieve, wherein drying conditions for the remaining insolubles are keeping at a temperature of 105°C for 1 hour, and then in a desiccator with a silica gel at 25°C for 30 minutes.

5. Detergent particles having an average particle size of from 150 to 500 μm and a bulk density of 500 g/liter or more, wherein the detergent particles are a collective of a detergent particle comprising a base particle comprising a water-insoluble inorganic compound, a water-soluble polymer and a water-soluble salt, and a surfactant supported by the base particle, wherein the base particle has a localized structure in which larger portions of the water-soluble polymer and the water-soluble salt are present near the surface of the base particle rather than in the inner portion thereof, and wherein the detergent particles have a dissolution rate of 82% or more, under conditions where the detergent

particles are supplied in water at 5°C; stirred for 30 seconds under the stirring conditions that 1 g of the detergent particles is supplied to a one-liter beaker having an inner diameter of 105 mm which is charged with one-liter of hard water having 71.2 mg $CaCO_3$/liter, wherein a molar ratio of Ca/Mg is 7/3, and stirred with a stirring bar of 35 mm in length and 8 mm in diameter at a rotational speed of 800 rpm; and filtered with a standard sieve having a sieve-opening of 74 μm as defined by JIS Z 8801, wherein the dissolution rate of the detergent particles is calculated by Equation (1):

$$\text{Dissolution Rate (\%)} = [1 - (T/S)] \times 100 \quad (1)$$

wherein S is a weight (g) of the detergent particles supplied; and

T is a dry weight (g) of remaining insolubles of the detergent particles remaining on the sieve when a liquid prepared under the above stirring conditions is filtered with the sieve, wherein drying conditions for the remaining insolubles are keeping at a temperature of 105°C for 1 hour, and then in a desiccator with a silica gel at 25°C for 30 minutes.

6. The detergent particles according to claim 4 or 5, wherein the detergent particles comprise a detergent particle having pores in the inner portion thereof having

a size of one-tenth to four-fifth of the particle size.

7. The detergent particles according to any one of claims 4 to 6, wherein the base particle comprises 20 to 90% by weight of the water-insoluble inorganic compound; 2 to 30% by weight of the water-soluble polymer; and 5 to 78% by weight of the water-soluble salt.

8. The detergent particles according to any one of claims 1 to 7, wherein the detergent particles comprise a uni-core detergent particle.

9. A method for preparing the detergent particles as defined in any one of claims 1 to 8, comprising the steps of:

Step (a): preparing a slurry containing a water-insoluble inorganic compound, a water-soluble polymer, and a water-soluble salt, wherein 60% by weight or more of water-soluble components including the water-soluble polymer and the water-soluble salt is dissolved in the slurry;

Step (b): spray-drying the slurry obtained in Step (a) to prepare base particles; and

Step (c): adding a surfactant to the base particles obtained in Step (b) to support the surfactant

thereby.

10. A detergent composition comprising the detergent particles as defined in any one of claims 1 to 8 in an amount of 50% by weight or more.

11. A detergent composition having an average particle size of from 150 to 500 μm and a bulk density of 500 g/liter or more, wherein the detergent composition comprises a detergent particle being capable of releasing a bubble from an inner portion of the detergent particle in a process of dissolving the detergent particle in water, the bubble having a size of one-tenth or more of a particle size of the detergent particle, and wherein the detergent composition has a dissolution rate of 90% or more, under conditions where the detergent composition is supplied in water at 5°C; stirred for 60 seconds under the stirring conditions that 1 g of the detergent composition is supplied to a one-liter beaker having an inner diameter of 105 mm which is charged with one-liter of hard water having 71.2 mg $CaCO_3$/liter, wherein a molar ratio of Ca/Mg is 7/3, and stirred with a stirring bar of 35 mm in length and 8 mm in diameter at a rotational speed of 800 rpm; and filtered with a standard sieve having a sieve-opening of 74 μm as defined by JIS Z 8801, wherein the dissolution

rate of the detergent composition is calculated by Equation (1):

$$\text{Dissolution Rate (\%)} = [1 - (T/S)] \times 100 \quad (1)$$

wherein S is a weight (g) of the detergent composition supplied; and

T is a dry weight (g) of remaining insolubles of the detergent composition remaining on the sieve when a liquid prepared under the above stirring conditions is filtered with the sieve, wherein drying conditions for the remaining insolubles are keeping at a temperature of 105°C for 1 hour, and then in a desiccator with a silica gel at 25°C for 30 minutes.

12. A detergent composition having an average particle size of from 150 to 500 μm and a bulk density of 500 g/liter or more, wherein the detergent composition comprises a detergent particle being capable of releasing a bubble from an inner portion of the detergent particle in a process of dissolving the detergent particle in water, the bubble having a size of one-tenth or more of a particle size of the detergent particle, and wherein the detergent composition has a dissolution rate of 82% or more, under conditions where the detergent composition is supplied in water at 5°C; stirred for 30 seconds under the stirring conditions that 1 g of the detergent composition

is supplied to a one-liter beaker having an inner diameter of 105 mm which is charged with one-liter of hard water having 71.2 mg $CaCO_3$/liter, wherein a molar ratio of Ca/Mg is 7/3, and stirred with a stirring bar of 35 mm in length and 8 mm in diameter at a rotational speed of 800 rpm; and filtered with a standard sieve having a sieve-opening of 74 μm as defined by JIS Z 8801, wherein the dissolution rate of the detergent composition is calculated by Equation (1):

$$\text{Dissolution Rate (\%)} = [1 - (T/S)] \times 100 \quad (1)$$

wherein S is a weight (g) of the detergent composition supplied; and

T is a dry weight (g) of remaining insolubles of the detergent composition remaining on the sieve when a liquid prepared under the above stirring conditions is filtered with the sieve, wherein drying conditions for the remaining insolubles are keeping at a temperature of 105°C for 1 hour, and then in a desiccator with a silica gel at 25°C for 30 minutes.